

## REMARKS

Claims 1 – 11 remain in the application and stand rejected. Claim 9 is amended herein. No new matter has been added.

### **Patentability under 35 USC §101**

Claim 9 is rejected under 35 USC §101 for being directed to non-statutory subject matter. Responsive thereto, claim 9 is amended herein substantially as suggested by the Office action. Thus it is believed that claim 9, as amended, is directed to statutory subject matter. Reconsideration and withdrawal of the rejection of claim 9 under 35 U.S.C. §101 is respectfully requested.

### **Patentability under 35 USC §112**

Claims 10 and 11 are rejected under 35 USC §112 for failing the written description requirement. Specifically, it is asserted that the specification, as filed, would not convey to a skilled artisan that the “raster image processors may be disconnected to said sequencer output port,” and further, that the “sequencer [may remain] unchanged by additions and removals of connected and disconnected said raster image processors.” Thus, it is further asserted that “[n]either of these limitations is described in the applicants specification.” In response to the applicants prior remarks, the Office action asserts that “Paragraphs 10 and 26<sup>1</sup> do not teach disconnecting RIP machines or the sequencer remaining unchanged by additions and removals of raster image processors.”

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<sup>1</sup> MPEP§2163 ¶II.A.2 (“Prior to determining whether the disclosure satisfies the written description requirement for the claimed subject matter, the examiner should review the claims and the entire specification, including the specific embodiments, figures, and sequence listings, to understand how applicant provides support for the various features of the claimed invention.”).

If necessary, the applicants can and will provide extrinsic evidence showing that a skilled artisan could indeed understand from the specification that “‘raster image processors may be’ connected and ‘disconnected to said sequencer output port,” as claims 10 and 11 recite; and further, that the “sequencer [may remain] unchanged by additions and removals of connected and disconnected said raster image processors.” However, for the reasons set forth below, such evidence is not believed necessary and so, is not included herewith.

In determining whether, the written description is sufficient “there is no *in haec verba* requirement, newly added claim limitations must be supported in the specification through express, **implicit, or inherent** disclosure<sup>2</sup>.” “The fundamental factual inquiry is whether the specification conveys with reasonable clarity to those skilled in the art that, as of the filing date sought, applicant was in possession of the invention as now claimed. See, e.g., *Vas-Cath, Inc.*, 935 F.2d at 1563-64, 19 USPQ2d at 1117<sup>3</sup>.”

Regarding the recitation that “‘raster image processors may be’ connected and ‘disconnected to said sequencer output port,” the specification recites that “each controller can be configured, by adding RIP machines and connecting networks, to suit the needs of each customer.” Paragraph 0010. With reference to Figure 2, claims 1 and 5 (from which claims 10 and 11 depend), recite that the “sequencer (21) ... has an output port networked and communicating with, and directly connected to, the input ports of said plurality of raster image processors (22a-n) and an input port receiving a print data stream,” respectively at lines 9 – 11 and 10 – 12. The sequencer (21) output port and the raster image processor (22a-n) input ports are represented in Figure 2 by the common connection between them. It is inherent in a typical network, such as an Ethernet based local area network, for example, that if nodes may be added, those nodes may be removed. Adding nodes implies connecting them to the network; removing nodes

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<sup>2</sup> MPEP§2163 ¶I.B (emphasis added). See also, MPEP§§2163.02 and 05

<sup>3</sup> *Id.*

implies disconnecting them from the network. Certainly, claims that just recited “disconnecting raster image processors to the sequencer” would not without more, avoid an obviousness rejection over a reference showing connecting the raster image processors to a sequencer<sup>4</sup>. Therefore, the specification supports the recitation of “‘raster image processors [that] may be’ connected and ‘disconnected to said sequencer output port,” as recited by claims 10 and 11.

Furthermore, since the sequencer (21) is networked with raster image processors (22a-n), adding or removing a raster image processor may entail nothing more than just connecting that raster image processor to the network. Just as adding/removing network nodes to a network does not change other network nodes; connecting/disconnecting raster image processors does not require changing the sequencer. Therefore, because connecting/disconnecting raster image processors does not require changing the sequencer, the specification implicitly supports the recitation of the “sequencer remaining unchanged by additions and removals of connected and disconnected said raster image processors.” Accordingly, believing to have shown the recitations of claims 10 and 11 to be supported by the present application as filed and specifically by Figure 2 and any appurtenant description thereof, reconsideration<sup>5</sup> and withdrawal of the rejection of claims 10 and 11 under 35 U.S.C. §112 is respectfully requested.

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<sup>4</sup> MPEP§2163 ¶II.A.3(a) (“Possession may be shown ... by describing distinguishing identifying characteristics sufficient to show that the applicant was in possession of the claimed invention. See, e.g., *Pfaff v. Wells Elecs., Inc.*, 525 U.S. 55, 68, 119 S.Ct. 304, 312, 48 USPQ2d 1641, 1647 (1998); *Regents of the University of California v. Eli Lilly*, 119 F.3d 1559, 1568, 43 USPQ2d 1398, 1406 (Fed. Cir. 1997); *Amgen, Inc. v. Chugai Pharmaceutical*, 927 F.2d 1200, 1206, 18 USPQ2d 1016, 1021 (Fed. Cir. 1991) (one must define a compound by ‘whatever characteristics sufficiently distinguish it’).”).

<sup>5</sup> MPEP§2163 ¶III.A (“When appropriate, suggest amendments to the claims which can be supported by the application's written description, being mindful of the prohibition against the addition of new matter in the claims or description. See *Rasmussen*, 650 F.2d at 1214, 211 USPQ at 326.”)

**Patentability of Claims 1 and 3 under 35 USC §103**

Claims 1 and 3 are rejected under 35 USC §103(a) as being unpatentable over U.S. Patent No. 6,825,943 to Barry et al. in view of U.S. Patent No. 6,315,390 to Fujii. Claims 2 and 6 – 11 are rejected under 35 USC §103(a) as being unpatentable over Barry et al. and Fujii in further view of U.S. Patent No. 6,532,016 to Venkateswar et al. Claims 4 and 5 are rejected under 35 USC §103(a) as being unpatentable over Barry et al. and Fujii in further view of U.S. Patent No. 5,946,460 to Hohensee et al.

In responding to the applicant's previous remarks with regard to claim 1, that patentability of claim 1 as a whole is not being considered<sup>6</sup>; it is asserted on page 3 of the Office action that "Applicant has not disclosed that **directly connecting the sequencer with the input ports of the raster image processors** provides an advantage, is used for a particular purpose or solves a stated problem." (emphasis added). This statement makes it very clear that point of novelty<sup>7</sup> is being considered, instead of patentability of claim 1 as a whole.

Furthermore, regarding the assertion that the "Applicant has not disclosed that ... [the claimed invention] provides an advantage, is used for a particular purpose or solves a stated problem;" page 2 the Office action acknowledges that, "[t]he applicant argues on pages 3 and 4 of the response in essence that: Claims 10 and 11 provide the disclosure of an **advantage** for the [asserted] design choice rejection of claim 1." Moreover, the specification describes a number of drawbacks with prior art high speed printers with specificity<sup>8</sup>. Implicit in that description is that the present invention is directed to those drawbacks. Thus,

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<sup>6</sup> MPEP §2141.02 I ("In determining the differences between the prior art and the claims, the question under 35 U.S.C. 103 is not whether the differences themselves would have been obvious, but whether the claimed invention as a whole would have been obvious." (citations omitted, emphasis original)).

<sup>7</sup> MPEP §2141.02 II ("Distilling an invention down to the 'gist' or 'thrust' of an invention disregards the requirement of analyzing the subject matter 'as a whole.'" (citations omitted)).

<sup>8</sup> Paragraphs 0002 – 8

it is a purpose of this invention to propose a radically different design for a high speed print controller. Instead of custom hardware and expensive fast multiprocessor machines, the controller is designed to use cheap commodity processors such as commercial, off the shelf, personal computer systems. Traditionally, such an approach has not been considered viable, since the commodity machines lacked high enough I/O and memory performance to be useful. This invention proposes to avoid this problem by introducing page pipelining, so that rasterized bitmaps are not returned to a common point. In this way, processing requirements on each part of the system are drastically lessened.

As a result, a print controller has **much higher performance and lower cost** than currently feasible. In addition, as commodity processors and commercially available networks are improved, the performance can be increased in a straightforward manner. By using the design described here, each **controller** can be **configured, by adding RIP machines and connecting networks**, to suit the needs of each customer<sup>9</sup>.

Accordingly, contrary to the assertion in the Office action, the “Applicant has ... disclosed that ... [the claimed invention] provides an advantage, is used for a particular purpose or solves a stated problem.”

The response to the applicant’s previous remarks with regard to claim 1 continues by asserting that “[o]ne of ordinary skill in the art, furthermore, would have expected **applicant’s invention** to perform equally well with a distributor connecting the sequencer and the raster image processors because both designs perform the same function of parsing and distributing the images to the raster image processors.” (emphasis added). However, whether a person of ordinary skill in the art would expect the applicant’s invention to perform as well as the prior art is not the test. Instead, this is clearly indicative of improper hindsight. As previously noted, “impermissible hindsight must be avoided and the **legal conclusion** must be reached on the basis of the facts gleaned from the prior art<sup>10</sup>.”

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<sup>9</sup> Paragraphs 0009 – 10 (emphasis added).

<sup>10</sup> *MPEP* §2142 (emphasis added, citations omitted).

Moreover, since no support is provided for this assertion (“One of ordinary skill in the art, furthermore, would have expected applicant’s invention to perform equally well with a distributor connecting the sequencer and the raster image processors because both designs perform the same function of parsing and distributing the images to the raster image processors.”), it is very clearly Official Notice<sup>11</sup>. Applicants are unaware of any such understanding within the art and no basis for one has been supplied in any reference of record. In point of fact, because “a distributor connecting the sequencer and the raster image processors” includes an extra unit (i.e., the Barry et al. distributor 118) between the Barry et al. Instruction operator 114 (asserted to be equivalent to the claimed sequencer) and the raster image processors 150, 152, 154, frustrates the stated purposes of the present invention, i.e., using “cheap commodity processors such as commercial, off the shelf, personal computer systems... [and allowing] each controller [to] be configured, by adding RIP machines and connecting networks, to suit the needs of each customer.” Having “adequately traverses the examiner's assertion of official notice, the examiner must provide documentary evidence in the next Office action if the rejection is to be maintained<sup>12</sup>.”

Furthermore, “[t]he fact that a prior art reference [Barry et al.] can be modified [connecting the Barry et al. Instruction operator 114 directly to the raster image processors 150, 152, 154, as asserted in the Office action] to show the patented invention does not make the modification obvious **unless the prior art reference suggests** the desirability of the modification. An attempted modification of a prior art reference that is **unwarranted by the disclosure** of that reference is improper<sup>13</sup>.” As far as the applicant is aware, this is still good law. There is nothing to indicate that Barry et al. would even continue to function with the Instruction operator 114 directly connected to the raster

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<sup>11</sup> MPEP §2144.03

<sup>12</sup> MPEP §2144.03 C

<sup>13</sup> *In re Gordon*, 733 F.2d 900, 902, 221 U.S.P.Q. 1125, 1127 (Fed. Cir. 1984) (emphasis added). *See also*, *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990) (Although a prior art device “may be capable of being modified to run the way the apparatus is claimed, there must be a suggestion or motivation **in the**

image processors 150, 152, 154. Therefore, this combination is an “attempted modification of a prior art reference that is unwarranted by the disclosure of that reference [and] is improper<sup>14</sup>.”

The Office action responds to this admonition, asserting that the “modification of Barry et al. is shown to be obvious by the design choice rejection, which does not require Barry et al. to disclose the desirability of the modification.” Where, specifically, in 35 USC, in 37 CFR or in any decision handed down by the Federal Circuit, is “the design choice rejection” enunciated? As far as the applicant is aware, design choice is not a standard for rejecting any claim under any authority, statutory or otherwise. Where, specifically, in 35 USC, in 37 CFR or in any decision handed down by the Federal Circuit, is there any basis that does not require the references to disclose the desirability of a modification? The applicant is aware of none, statutory or otherwise. Therefore, there is no support for, “the conclusion that the claimed invention is directed to obvious subject matter, [because neither] **the references** ... expressly or impliedly suggest the claimed invention [nor has] ... a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the **teachings of the references**<sup>15</sup>.”

Since claim 1 recites “a sequencer which has an output port networked and communicating with, and directly connected to, the input ports of said plurality of raster image processors” at lines 9 – 11, not “a sequencer directly connected to the input ports of the raster image processors” (which is still not what is taught or suggested by any of the references of record); patentability of claim 1 clearly is not being considered as a whole, but instead being distilled “down to the ‘gist’ or ‘thrust’<sup>16</sup>”. Furthermore, since the burden is on the Office to show a suggestion, not on the applicant to show that a

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reference to do so.” 916 F.2d at 682, 16 USPQ2d at 1432 (emphasis added)).

<sup>14</sup> *Id.*

<sup>15</sup> Ex parte Clapp, 227 USPQ 972, 973 (Bd. Pat. App. & Inter. 1985) (emphasis added).

<sup>16</sup> *Supra.*

particular recited difference “provides an advantage, is used for a particular purpose or solves a stated problem;” since, nothing was shown in any of the references that expressly or impliedly suggest the claimed invention as recited in claim 1; since instead, the Office action very clearly resorts to improper hindsight, and so, the present application is being used in improper hindsight to suggest claim 1 and to suggest modifying the references to result in claim 1, *prima facie* obviousness has not been established for claim 1 or any claim depending therefrom. Reconsideration and withdrawal of the rejection of claims 1 and 3 under 35 U.S.C. §103(a) is respectfully requested.

#### **Patentability of Claim 5 under 35 USC §103**

Acknowledging on page 4 (g) the Office action that the applicant argues “that: Fujii et al. does not teach multiple print head drivers between a print server and a printer,” the Office action asserts that “Barry et al. disclose a print head driver between a server and a printer (print driver 102 of Fig 1a, col. 3, lines 13 – 15).” Very clearly, the Barry et al. print driver 102<sup>17</sup> is not a print head driver within the plain meaning in the art as evidenced by Fujii et al.<sup>18</sup> or within the meaning set forth in the specification<sup>19</sup>. Therefore, very clearly “Fujii et al. does not teach multiple print head drivers between a print server and a printer.” Neither, as was previously noted does Barry et al, show or suggest “a pipeline of elements connected between a print server and a printer and processing print control data from said print server,” and wherein the pipeline elements are as claim 5 recites. Neither is this shortcoming of the combination of Barry et al. with the Fujii et al. cured by the addition of Hohensee et al. Therefore, nothing has been

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<sup>17</sup> col. 3, lines 13 – 15. (“The print job input 100 is provided to a print driver 102 as a print job file 104 and is output from print driver 102 along a line 106 to a print spooler 108.”)

<sup>18</sup> See, e.g., col. 6, lines 14 – 17 (“A drive voltage pulse signal is applied by head driver 62 between the common electrode 61 and individual electrode 60 of the nozzle to be driven.”) and lines 67 – 69 (“A drive voltage pulse is applied appropriately from a head driver 34 to the corresponding ink jet head unit 5 to discharge an ink drop from the ink nozzle.”)

<sup>19</sup> *Supra*.



provided to indicate where in the cited references “a pipeline of elements connected between a print server and a printer and processing print control data from said print server,” as claim 5 recites might be found. Nor could there be!

Therefore the combination of Barry et al. with Fujii et al. and Hohensee et al. or further in combination with any reference of record, does not result in the present invention as recited in claim 5 or in claim 11, which depends therefrom. Accordingly, since the combination of Barry et al. with Fujii et al. and Hohensee et al. does not result in the present invention as recited in claims 5, claim 5 is not made obvious under 35 U.S.C. §103(a) by Barry et al. with Fujii et al. and Hohensee et al. or further in combination with any reference of record. Reconsideration and withdrawal of the rejection of claim 5 under 35 U.S.C. §103(a) is respectfully requested.

#### **Patentability of Claims 6 – 9 under 35 USC §103**

The Office action boils the applicants discussion of claims 6 – 9 to the gist, i.e., that “[n]one of the references teach communicating queued packaged print stream data portions directly over a network.” For this the Office action relies on “Venkateswar et al. disclose communicating queued packaged print stream data portions directly over a network (col. 2, lines 21-28).” Venkateswar et al. col. 2, lines 21-28 provides

In a sort-first embodiment of the invention, the main processor creates the paths using some assistance from the parallel processors to accelerate the tasks. This is typically done by using a task queue, with all of the parallel processors eligible to assist. The parallel processors then perform the boundary processing part of geometry processing to convert the paths to primitives and the rasterization to send the data to the print engine. Nowhere in any of this is there anything about “communicating queued packaged print stream data portions directly over a network.”

Apparently acknowledging this, the Office action continues “[t]he data portions are disclosed to be communicated and **inherently must be connected** by some means

which would constitute a network.” However inherency has no place in a rejection under 35 USC §103(a)<sup>20</sup>. For inherency to apply, all of the alleged inherent elements must be disclosed in a single reference, substantially as claimed. “The fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic. *In re Rijckaert*, 9 F.3d 1531, 1534, 28 USPQ2d 1955, 1957 (Fed. Cir. 1993)<sup>21</sup>.” Since claims 6 – 9 are not rejected under 35 U.S.C. §102, but under 35 U.S.C. §103(a), Venkateswar et al. is available as a reference, only for what it actually shows. Since the Office action is alleging inherency, it is not disputing that Venkateswar et al. (and Barry et al. with Fujii et al. as well) fails to teach or suggest “communicating queued packaged print stream data portions directly over a network to a plurality of raster image processors” as recited by claim 6, lines 5 – 6.

Therefore, because while it might be alleged that “Venkateswar et al. disclose ... communicating queued packaged print stream data portions directly to a plurality of raster image processors;” no reference of record teaches “communicating queued packaged print stream data portions directly over a network to a plurality of raster image processors” as claim 6 recites. Accordingly, *prima facie* obviousness has not been established for claim 6 or any claim depending therefrom. Nor is the present invention as recited in claims 6 – 9 taught or suggested by any of Barry et al., Fujii et al., Venkateswar et al., or any other reference of record. Therefore, the combination of Barry et al., Fujii et al. and Venkateswar et al. or, further in combination with any other reference of record does not result in the present invention as recited in claim 6 or 9 or, in claim 7 or 8 which depend from claim 6. Reconsideration and withdrawal of the rejection of claims 6 – 9 under 35 U.S.C. §103(a) is respectfully requested.

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<sup>20</sup> “The PTO can require an applicant to prove that the prior art products do not necessarily or inherently possess the characteristics of his [or her] claimed product. Whether the rejection is based on ‘**inherency**’ under 35 U.S.C. 102, on ‘**prima facie obviousness**’ under 35 U.S.C. 103, jointly or alternatively, ... .” *In re Fitzgerald*, 619 F.2d 67, 70, 205 USPQ 594, 596 (CCPA 1980) (emphasis added).

<sup>21</sup> MPEP §2112 (emphasis in original).

**Patentability of Claims 10 and 11 under 35 USC §103**

As noted hereinabove, claims 10 and 11 recite that “the sequencer’s said output port is connected to the raster image processors’ said input ports, and wherein said raster image processors may be connected and disconnected to said sequencer output port, said sequencer remaining unchanged by additions and removals of connected and disconnected said raster image processors.” This is not possible with, nor is it suggested by, any reference of record.

Reading Barry et al. to include a network, for example, includes a star configuration rather than an Ethernet configuration. As previously noted, such a star configuration has dedicated connections between the distributor 116 (connected to the alleged sequencer, upstream instruction operator 114) and portion selectors 140, 144, 148 connected to the down stream RIP engines 150, 152, 154. Adding another RIP engine to Barry et al., for example, requires adding another line/path. The Office action<sup>22</sup> offers Venkateswar et al. to teach “a sequencer (main processor 52) being connected to raster image processors (parallel processors 54) (Fig. 2a).” Applicants note that “[d]uring patent examination, the pending claims must be ‘given \*>their< broadest **reasonable** interpretation **consistent with the specification.**’ >In re Hyatt, 211 F.3d 1367, 1372, 54 USPQ2d 1664, 1667 (Fed. Cir. 2000)<sup>23</sup>.” Even if one were to accept arguendo that Venkateswar et al. the main processor 52 were a sequencer within the meaning of the present application, the combination of the Barry et al. star distributor 116 with the Venkateswar et al. main processor 52 does not change the star configuration. Moreover, it does not change the star configuration so that “the sequencer’s said output port is connected to the raster image processors’ said input ports, and wherein said raster image processors may be connected and disconnected to said sequencer output port, said

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<sup>22</sup> Page 2, (b).

<sup>23</sup> MPEP, §2111 (That “broadest reasonable interpretation of the claims **must also be consistent** with the interpretation that those skilled in the art would reach. *In re Cortright*, 165 F.3d 1353, 1359, 49 USPQ2d 1464, 1468 (Fed. Cir. 1999).” (emphasis added)).

sequencer remaining unchanged by additions and removals of connected and disconnected said raster image processors.”

Therefore, neither of Barry et al., Fugii et al., Hohensee et al. or Venkateswar et al. teaches or suggests facilely adding or removing raster image processors at the sequencer output port as recited in claims 10 and 11. Thus, neither does the combination of Barry et al. with Fujii et al., alone or further in combination with any reference of record, suggest or result in the present invention as recited in claims 10 and 11. Nor has the Office action asserted that this recited difference is taught in any reference of record. Instead, this difference is also ignored in rejecting claims 10 and 11 and so, *prima facie* obviousness has not been established for either of claims 10 or 11. Reconsideration and withdrawal of the rejection of claims 10 and 11 under 35 U.S.C. §103(a) is respectfully requested.

#### **Patentability of Claims 2 and 4 under 35 USC §103**

Neither Venkateswar et al. nor Hohensee et al. add anything to the combination of Barry et al. with Fugii et al., to result in the present invention as recited in claims 1 or 3, much less claims 2 and 4, which depend therefrom. Therefore, *prima facie* obviousness has not been established for either of claims 2 or 4. Accordingly, reconsideration and withdrawal of the rejection of claims 2 and 4 under 35 U.S.C. §103(a) is respectfully requested.

#### **Conclusion**

The applicants thank the Examiner for efforts, both past and present, in examining the application. Believing the application to be in condition for allowance, both for the amendment to the claims and for the reasons set forth above, the applicants respectfully

AMENDMENT  
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request that the Examiner reconsider and withdraw the rejection of claims 1 – 11 under 35 U.S.C. §§101, 103(a) and 112, and allow the application to issue.

As previously noted the MPEP §706 “Rejection of Claims,” subsection III, “PATENTABLE SUBJECT MATTER DISCLOSED BUT NOT CLAIMED” provides in pertinent part that

If **the examiner** is satisfied after the search has been completed that patentable subject matter has been disclosed and the record indicates that the applicant intends to claim such subject matter, he or she **may note** in the Office action that **certain aspects or features** of the patentable invention have not been claimed and that if properly claimed such claims **may be given favorable consideration**. (emphasis added.)

The applicants believe that the written description of the present application is quite different than, and not suggested by, any reference of record. Accordingly, should the Examiner believe anything further may be required, the Examiner is requested to contact the undersigned attorney at the local telephone number listed below for a telephonic or personal interview to discuss any other changes.

Please charge any deficiencies in fees and credit any overpayment of fees to IBM Corporation Deposit Account No. 50-3669 and advise us accordingly.

Respectfully Submitted,

February 20, 2007  
(Date)

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